

# SUPPLEMENT.

## The Mining Journal, RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[The MINING JOURNAL is Registered at the General Post Office as a Newspaper, and for Transmission Abroad.]

No. 2427.—VOL. LII.

LONDON, SATURDAY, FEBRUARY 25, 1882.

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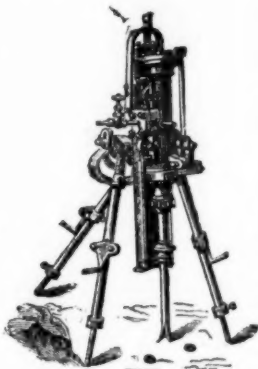
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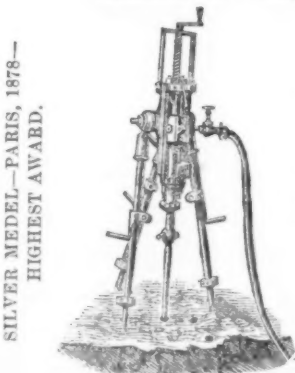
RESULTS OF TRIALS at CARDIFF EXHIBITION, on a block of Cornish Granite, on 24th September, 1881:—

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Normandy Rock Drill and Air Compressor, bored	1 1/4 x 10 1/2	in 2 10
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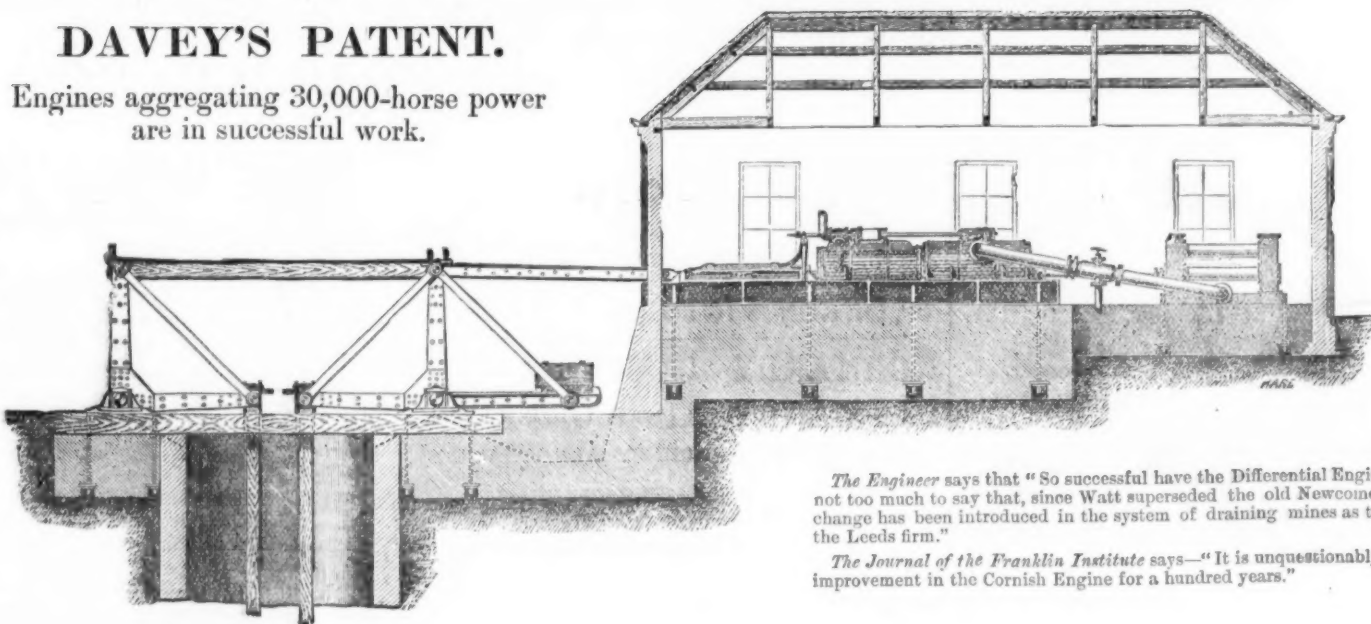
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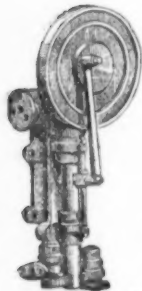
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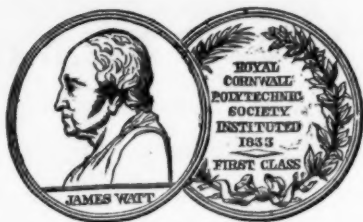
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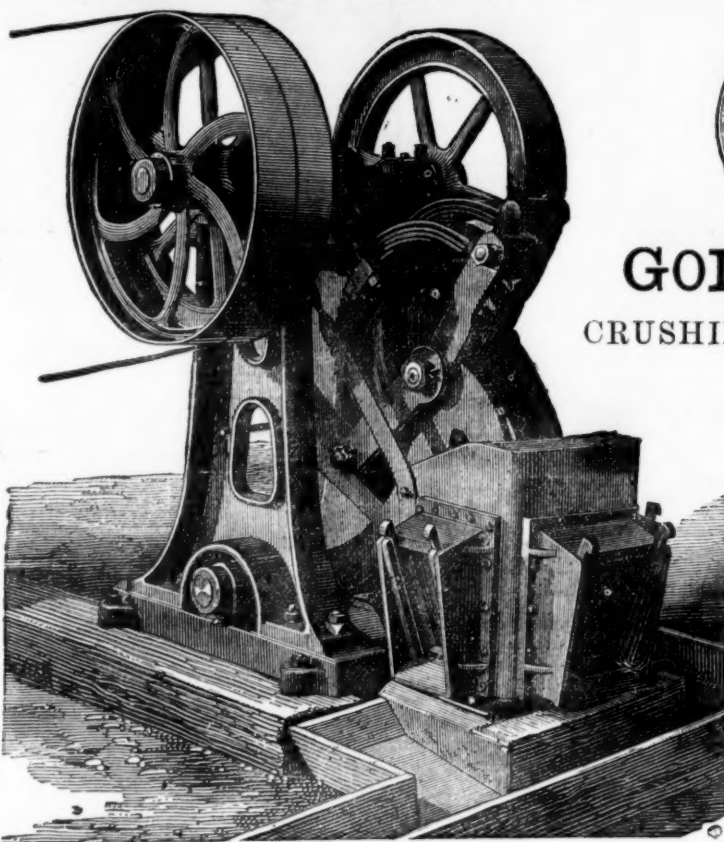
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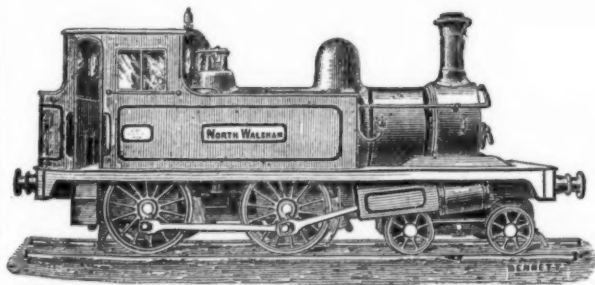
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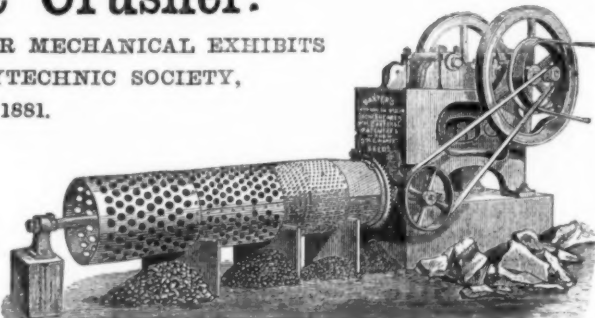
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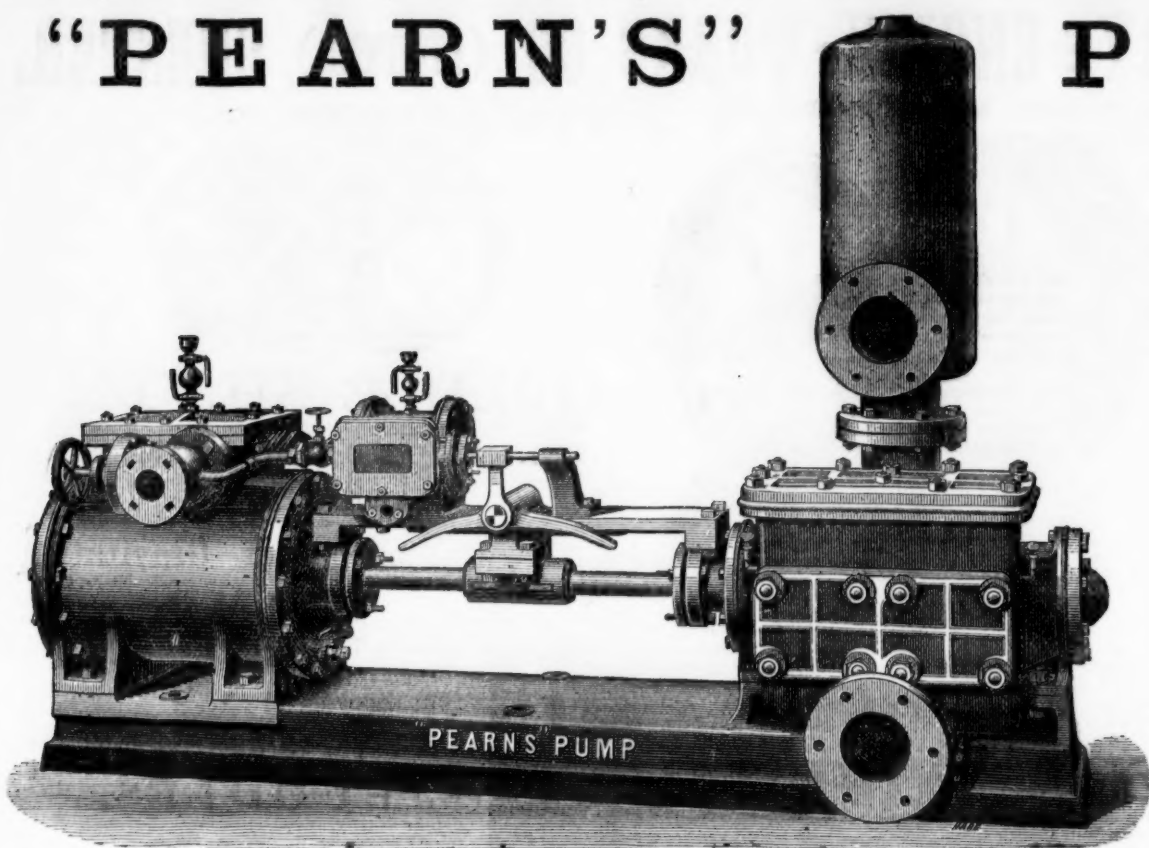
ALEX. DEL MAR.

Mining Engineer, late Director of the United States Bureau of Statistics, Mining  
Commissioner for the United States Monetary Commission, &c., 216, SANSONE  
STREET, SAN FRANCISCO: Cable address—"Delmar, San Francisco." Branch  
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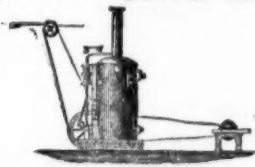
IT HAS NO INTRICATE PARTS, the WORKING PARTS are the same as used in the ordinary STEAM ENGINE.

It is as Simple and as DURABLE as any Fly-wheel Pump, and cannot possibly become DERANGED.

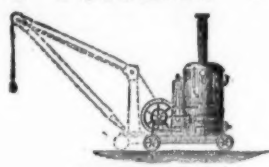
DIAMETER OF WATER CYLINDER..... In.	2	2½	3	3½	4	4½	5	6	7	8	9	10	12	14
DIAMETER OF STEAM CYLINDER.....	4 in.	5 in.	6 in.	6 in.	7 in.	7 in.	8 in.	10 in.	12 in.	12 in.	14 in.	14 in.	16 in.	18 in.
Length of Stroke .....	9 in.	9 in.	9 in.	9 in.	12 in.	12 in.	12 in.	12 in.	12 in.	18 in.	24 in.	24 in.	24 in.	24 in.
Content, Gallons per Hour .....	£50	1500	2160	2940	3840	4860	6000	8640	11590	15360	19440	24000	34650	46380
Price..... £	18	21	24	28	35	38	45	60	70	85	130	140	180	230

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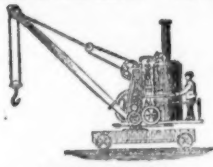
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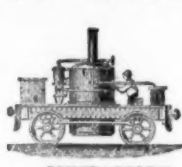
STATIONARY ENGINE.



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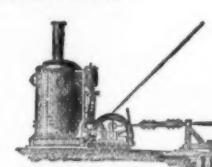
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When the outlet mouth of the ascension pipe cannot be placed higher than the inlet mouths of the branch or branches, or where more power is required than the air pressure in or on the goafs in the said hollows, they then in such cases apply steam (or other pressure) from a steam boiler or waste steam from fan engine or other source, into the upper portion of ascension pipe to increase the current of gas from the said hollows through the whole of the syphons. The whole of the syphon from the inlet mouths of branches to the outlet mouth of the ascension pipe must be made air tight all through, with provision at lowest levels of branches and main pipe or tunnel to extract from well holes any condensed water from the said syphon. The atmospheric syphon may be a pipe (advantageously made with flexible joint) carried down the shaft inside or outside of the ring of the shaft or pit, and through the roads or beneath them, or through the old workings with branch pipe from the mine to all goafs or hollows, or it may be a tunnel into the old workings of the vein being worked, or it can be in some other vein or riser into which the branches may be conveyed, the outlet mouth may be carried from the same into the upcast shaft to be acted on by the upcast current, or to the top of the pit, as hereinbefore stated.

THE PHILOSOPHY OF ADVERTISING.—It is acknowledged that without constantly advertising no tradesman can hope for any substantial progress in his business, but it must equally be admitted that there is as much art in advertising as in other things, and that sound advice is essential, at least until experience has been gained. Recognising these facts, Mr. HENRY SELL, advertising agent, of Bolt-court, Fleet-street, has just issued a handsome volume under the above title, which will give both advertisers and intending advertisers information of really great business value.

## McCullochs & Holman Bros PATENT "CORNISH" ROCK DRILL. 1st SILVER MEDAL. MINING INSTITUTE OF CORNWALL 1881.

This machine has been constructed after a long practical experience in the requirements necessary for Cornish mines. The result has more than realised our expectations. Our chief objects in view were GREATER DURABILITY and LESS LIABILITY TO DISARRANGEMENT, but it has also proved itself MORE EFFECTIVE. (Vide Report.)

MINING INSTITUTE OF CORNWALL.

CAMBORNE, 8TH DECEMBER, 1881.

SIR,—Having been requested by the Council to superintend the Rock Drilling Machine Contest, held at Dolcoath Mine to-day in connection with the above Institute, I beg to hand you the following report:—The competing machines were the "Barrow," the "Cornish," and the "Eclipse"—each was fixed on the same mounting bar, and bored into the same stone. The result of the boring were as follows:—

Name of Machine.	Diameter of cylinder.	Diameter of Drill.	Time boring.	Depth bored.	Cubic inches of ground cut.	Cubic inches cut per minute.	Mean pressure per square inch.	Remarks.
Cornish.....	In. 3½	In. 2	Min. 1 15	In. 4½	14.1	—	—	
".....	—	1½	55	9	21.6	—	—	
Total.....	3½	—	2 10	13½	35.7	16.4	61	
Eclipse.....	3½	2	40	—	—	—	—	
" second try .....	—	—	2 0	1	3.1	—	—	
" third try .....	3½	2	2 35	11½	35.3	13.6	60	
Barrow.....	4	1½	15	½	1.2	—	—	
".....	—	—	2 0	8½	19.18	—	—	
Total.....	4	1½	2 15	8½	21.0	9.3	60	

Gland to mounting bar broke.

To R. H. Williams, Esq., C.E., President of the Mining Institute of Cornwall.

I am, Sir, your obedient servant,

JAMES HOSKING, M.E.

Address—

HOLMAN BROS.,

CAMBORNE FOUNDRY AND ENGINE-WORKS, CAMBORNE, CORNWALL.



## Original Correspondence.

## SAFETY LAMPS, AND MINING EXPLOSIONS.

SIR,—In the article in last week's Journal on "Safety Lamps and Mining Explosions" you refer to what you considered an important "omission in the evidence given generally at all enquiries relative to the deaths of persons by explosions of gas;" and further on you say "We think this fully bears out what we have stated as to the importance of examining witnesses as to whether the Act of Parliament has been complied with as regards lamps, which we find on the first occasion that the question has been put was not the case." The question, which you very properly call an important one, has, in Lancashire at least, always been raised at the enquiries into the cause of explosions, more particularly with reference to the system of locking lamps after they have been re-lighted and when the "station" for re-lighting has been down below; and I may say that the jury at the enquiry into the disaster at the Haydock Colliery in 1879 made a suggestion as to an alteration in the system then in use for lighting and re-locking the lamps. This is an important matter, and I cannot conceive it possible that it can have been overlooked at any enquiry into the cause of a colliery explosion.

(Chester, Feb. 21.)

JOHN L. HEDLEY.

## THE MYSORE GOLD COMPANY.

SIR,—The report on this property recently drawn by Mr. W. Bell-Davies is of a favourable character, and in the interest of the many shareholders interested in the mines of the Colar district it is hoped that Mr. W. Bell-Davies may prove correct in his views. There is perhaps no valid reason why he may not be a true prophet, but the exceptional language of Mr. Davies induces me to put one or two questions. Has he acquired his mining knowledge in the Western States of America, and does he purposely ignore the good old English terms current among ourselves? What does he mean by a "vertical lode coming into another lode as a feeder"? Is he sure that it is a vertical lode, or is it only a branch or feeder? What are the certain "indications that below the point of junction with the vertical vein it will increase in size"? How can an inspection of a mere surface plan show the permanence of a vein in depth? What precise meaning does he attach to the Americanism "pay shoots"? Are they shoots that will be remunerative ones to the shareholders; if so, what is their length, dimensions, and average richness? The assertion "pay shoots" will surely allow Mr. W. Bell-Davies to reply to this simple question. Is it absolutely necessary to go below the ancient workings for "high grade ores," and is quartz an "ore" or a mineral? What is his estimated yield of gold per ton of quartz, taking the returns at 1000 tons of "high grade ore" per month? How is he able to fix a "regular dividend" on 1000 tons of quartz monthly when it is necessary that trial stamping should continue to test the value of all classes of ore? In replying to these various questions Mr. W. Bell-Davies will have a good opportunity of showing that he is not what some of your correspondents seem to assert, "merely a school miner."

BETA.

## MYSORE DISTRICT MINES.

SIR,—The information on which I wrote to you by last mail in regard to Mr. Bray's disconnection with the Great Southern Mysore Mine led me to suppose it was Mr. Thomas Bray, whom I had known so long connected with the Mysore district. I now find it is another Mr. Bray to whom my remarks, so far as they refer to him, cannot apply, and for which I beg to apologise.

Since my letter handing you extract from the Madras Mail from their reliable correspondent I enclose copies of communications from the captains of the Ooregum and Mysore Reefs Mines to the Madras Mail of Jan. 25, with the editor's remarks thereon.

Mr. W. T. Bryant, manager of the Ooregum Mine, writes:—"The remarks of your 'perfectly reliable correspondent' are as unreliable as one could well conceive, and are such as to mislead your readers; or he would have reported that work is being carried on at Ooregum—two shafts are being sunk in hard ground, one very hard, with 21 coolies in each, on contract; with 8-in. pumps in each shaft, working at the rate of over 12 strokes per minute, equivalent to 182 gallons of water per minute. These shafts are 68 ft. and 118 ft. respectively from surface, and are being sunk with all possible speed. Had he favoured me with a call I would have explained the nature of the work in hand, and that we are troubled with more water than any mine on the field, having near double the quantity to contend with, which increases as depth is attained. As to his opinion of the future of this mine under good management I shall endeavour to prove its worth as soon as possible, and trust for the sake of the shareholders it will not end in mere gold washings by coolies, but with results to be obtained from continuous stamping. I have been honoured with a visit from two practical miners, Messrs. Prideaux and Rowe, who are prospecting with really good prospects in the slate formation on the frontier of Mysore, for Messrs. Wilson and Co., Madras. They are not novices to mining, and have thoroughly inspected this mine. If Messrs. Wilson and Co. would favour your readers with a report from them you could rely on its accuracy, and it would enlighten your 'reliable correspondent,' so that on his next visit 'reliable' information would indeed be given. This is not the first time our works have been unfavourably commented on in your paper, for what motive I cannot understand, as on a fair and impartial investigation by practical men our work will compare favourably with any mine in the locality."

Mr. J. Henry Moon, M.E., manager of the Mysore Reefs Gold Mining Company's Camp, Kolar, writes:—"I am very much astonished at the partial, and in one particular untrue, statement of your 'perfectly reliable correspondent' in your issue of Saturday last, the 21st inst. I say partial because he only names six out of the ten mines worked on this field. I suppose the three at the southern end of the field were too far from Kolar Road for him to visit; but I am sure, considering the short time they have been at work (in the case of the one of which I have the management, only since Sept. 19 last), he would at least have found something to look at, if not to report on. I say untrue because he says at 'Ooregum Mine nothing whatever is being done,' yet 'he saw' a good wash out 'of the mullock there.' If they are doing nothing, how is this mullock obtained; but I tell your correspondent that no time on the field is true mining carried on with more energy, and under greater difficulties, than at the Ooregum Mine under the very able management of Capt. Bryant. Is Mr. St. Steven, a shareholder interested in the rise that he 'is very hopeful,' if so, why (if he has any influence) does he not urge that something should be done, instead of the 'nothing whatever,' as reported by your 'perfectly reliable correspondent'? I regret to see partial statements, as calculated to weaken the faith of shareholders, who have no means of knowing the whole truth. Some few weeks back you were led into the same line of remarks by one who, I am sure, only visited some of the mines at the northern end of the field, and then Ooregum was stated to have been managed in a defective way. A letter in the *Mining Journal* says that the real management of that mine is carried on by some gentlemen in Madras. Surely, if nothing is being done, they are near enough to alter such a state of affairs."

The thanks of those of our readers, continues the Madras Mail, who are shareholders in the Ooregum will be readily accorded to our 'perfectly reliable correspondent' for having been the means of eliciting some information as to what is being done. The works have, we admit with Mr. Bryant, been unfavourably commented on in these columns, but the fault rests not with the columns, but with the works. We have visited the works twice, and we know what we have seen, and what we have not seen. The recent change in administration we regard as an unmixed benefit, and if the directors have not yet touched the bottom of the company's capital—an important point on which exact information would be welcome to many people in England—the mine may yet bear out the anticipations that were entertained of it about twelve months ago. The Chairman, Sir William Arbuthnot, will be back in Madras in a few weeks, and perhaps he will seize an early opportunity to state what shot is left in

the locker, and what results have been achieved at the mine in the way of finding a potential quantity of paying stone.

I trust this letter will reach you in time for publication before the Ooregum meeting.

INDIAN SHAREHOLDER.

## INDIAN GOLD MINES—THE MYSORE DISTRICT.

SIR,—Capt. Charles Bray hits about him so wildly that he is more dangerous to his friends than to his foes. It is hard, for instance, upon poor Captain Moon that in the very impression of the *Mining Journal* in which appears a letter from Capt. Moon backing up Capt. C. Bray a letter from the latter should also be printed, in which he states that the manager of the Mysore Reefs Company (Capt. Moon) brought him some specks of copper pyrites thinking it was gold. I fear that if Capt. C. Bray's statement is correct his champion, Capt. Moon's, evidence is not worth much. There is a noisy clique of disappointed failures who are attempting to re-establish their credit, and injure those who dismissed them by disparaging in every way, publicly and privately, the mines which their incompetence have already injured and the mining field which was the scene of their own failure.

Capt. C. Bray speaks out openly, but there are others who do not hesitate to spread the falsest insinuations privately. Shareholders should remember that there a number of first-rate mining captains on the Mysore Colar gold field—such as Capt. Rogers, Capt. Plummer, Capt. Tonkin, Capt. Tom Bray, Capt. Roach, &c. (any one of them men of quite as much practical mining experience as Capt. Charles Bray)—who are doing their work not only quietly and well, but hopefully and confidently. Capt. Rogers is now on his way home, but his views of the prospects of the Mysore Mine, judging from his official reports and private letters, were most favourable up to the last.

X. Y. Z.

## GREAT SOUTHERN MYSORE.

SIR,—Now that the above concern has been before the Courts I would suggest to my unfortunate brother shareholders that they bestir themselves, either to recoup themselves as far as they can out of what remains, or else to obtain justice upon the promoters. It would appear that the promoter has received 13,000*l.* as his share from the sale of the property. Upon this point, as recently exemplified in the case of a shareholder owing 1750*l.* in calls, no amount can be claimed from the shareholders if they refuse payment of unpaid calls. So that all those who have paid in full run the chance of losing their money, while those who have their calls unpaid are so far fortunate. Cannot we get the 13,000*l.* promotion money returned, and apply it to the working of the property? In the case of Smith v. Chadwick, Adamson, Collier, and Company the complainant recovered substantial damages for being induced by a fraudulent prospectus to take shares in the Blochairn Iron Company. Now, if financial agents be thus reached by the law, cannot the promoters of the Great Southern Mysore Company be compelled to restore to the shareholders what has been declared by a judge to be unfair? Mining under such circumstances is placed at an enormous disadvantage.—*Sheffield, Feb. 21.*

E. M. M.

## MYSORE-COLAR GOLD FIELDS.

SIR,—Your correspondent "Justitia" opens up a question of importance to shareholders in the various Mysore gold companies, particularly after the recent judgment in favour of a shareholder against the Great Southern Mysore Company. It is highly probable that the same points which gained the favourable judgment are equally applicable to all the sister companies of that district, all having been I learn established upon similar bases. In one at least of these the solicitors have issued their last notice for payment of calls. (I have received one myself and object to pay.) If shareholders refuse to pay the calls and combine to resist, is it probable that the directors would proceed to extremities now should their prospectuses be on similar lines as the case above referred to? If they should be so—I do not say that they are—they would deserve a like fate as the plaintiff Gibb has secured.

No doubt there are many shareholders in each of these companies cognisant of the arrangement both public and private made between vendors and the company. These would of course have no remedy, but some one will be sure to step out and contest the matter. The fact is I have believed implicitly the prospectuses of these professors, experts, and promoters, and trust I have not been deluded.

Feb. 23.

MAL FIDE

## DULCAMARA ANGLO-INDIAN GOLD EXTRACTION COMPANY

SIR,—Amused as I was at the notice in the Journal respecting this company, to which I referred in my letter of last week, I have been much more so on the remarks on said letter in the Journal of Feb. 18. However good the intentions may be, and whatever benefit may be derived by the Anglo-Indian gold mining companies from the working of this great process, it is very evident from the confused hash made by their calculating expert of the imperial and standard weights of the realm, and the countenance given to the same by you, that a study of the tables as taught during childhood would enlighten the minds of all those upholding such calculations, and bring them into the groove of everyday practice in animalverting on calculations embracing such things as quartz and gold. In all my experience quartz has been weighed by the pound avoirdupois and its compound quantities—tons, hundredweights, quarters, and pounds; while gold is always weighed by or reduced to the troy standard, and expressed in such—pounds, ounces, pennyweights, grains. Therefore, truly, as you state, '01 per cent. of 2240 lbs. would be equal to 3.58 (4) ozs., certainly over 3½ ozs. avoirdupois. As, however, that pennyweights and grains are not parts of the avoirdupois standard, but of the troy standard, it is necessary that it should be reduced to this standard, so that pennyweights and grains should express portions of the amount, consequently if 584 represent parts of 1 oz. avoirdupois it cannot represent an equal portion of 1 oz. troy, therefore it is necessary, in order to give a definite to the whole quantity, to reduce it to one standard, thus—'01 per cent. of 2240 lbs. (avoirdupois) = 3.584 ozs. (avoirdupois) = 1568 grs. (troy) = 3 ozs. 5 dwts. 8 grs. (troy), as stated in my letter last week, and not 3 ozs. 11 dwts. 16 grs., as stated in last week's remarks. I am not at all surprised at the promoters of the company making any such statement as this, but I am exceedingly surprised that it should have been made in such remarks as appeared in last week's Journal without pains being taken to test the accuracy, or having it tested, of such dissimilar calculations. If the company referred to commence an action against me on account of my 'inability to calculate a percentage,' I shall be constrained to commence an action against those inciting them to take action against me, so as to make matters straight between us all. I think it would be better to try and induce said company to alter the amount before they issue their prospectus, in which case they can lay all blame on those who made such erroneous remarks. Thanking those who so kindly and considerately conferred on me the great and honourable distinction of having made such 'an important discovery' in connection with the extraction of gold,

Birmingham, Feb. 21.

CHARLES F. BRAY.

## CHERAMBADI GOLD MINING COMPANY.

SIR,—It would have been more to the point if the secretary of this company had vouchsafed to the readers of the Journal some accurate and reliable information instead of his indulging in any "broad" comments on the specific statements we were justified in publishing, and to which we adhere, as they were gathered from an inspection of the company's books. The shareholders who attended the meeting on Tuesday last are now in a position to judge of the prospects of this concern and the extent to which they have been deluded. The accounts showed that less than 8000 shares were allotted to bona fide holders, that only 5623*l.* had been paid, and that the balance at the company's bankers was only 176*l.* . . . An acrimonious and personal discussion between "Professor" Vazie Simons and Mr. Phillips, a director, who has only returned from India, disclosed the unwelcome fact that whilst the learned "Professor" and reporter on so many mining projects certified to the existence of at least three quartz reefs on this property, Mr. Phillips

denies that there is a single reef on any part of the Pandyland estate, and as much as suggested that "Professor" Vazie Simons never set foot on the property. It is not surprising, under these circumstances, that the vendor magnanimously offers to take one-half of the amount, if he can get it, of the sum originally contracted for. Comment, whether "broad" or otherwise, on such transactions would be superfluous.

BEALL AND CO.

Queen Victoria-street, Feb. 23.

## CHERAMBADI DISTRICT GOLD MINING COMPANY.

SIR,—As the meeting of this company on Tuesday finished in such a manner that it is difficult to say when the end had come I append a verbatim report of a conversation, which certainly should not be omitted, since it shows how conflicting are the views as to the auriferous resources of the Indian gold fields.

T. T. T.

Mr. COOKE (shareholder): I should like to ask Mr. Phillips one question. Am I to understand from your report that you say that there are no quartz reefs on the Pandyland estate?—Mr. PHILLIPS: Most certainly so.

Mr. COOKE: Did not Prof. Vazie Simons in his report state that auriferous quartz reefs did exist?—Mr. PHILLIPS: Yes, but I assert that such is not the case. Mr. COOKE: As I see that Prof. Vazie Simons is present, I should be glad to hear what he has to say on the subject?—Prof. VAZIE SIMONS: I can only say that I most certainly found reefs on the estate, and the first bit of stone which was knocked off contained visible gold, the estate was also very rich in alluvial deposits. This I stated to the directors of this company, and it was in consequence of this that Mr. Phillips went to India.

Mr. PHILLIPS: Yes, and I say that there is not a single reef on the estate. Prof. VAZIE SIMONS: There are without doubt three reefs, and may, perhaps, be four. Mr. Thomas Laing, one of the best and ablest mining engineers in the Wynad, was with me at the time, and agreed with me.

Mr. PHILLIPS: Allow me to say that Mr. Laing, who Prof. Simons says is the best engineer in the Wynad, was on the estate with me, and could not find any of the reefs.

Prof. VAZIE SIMONS: During the time that Mr. Phillips was there the ground was covered with dense jungle, and the reefs might be difficult to find. I cannot, of course, say what Mr. Phillips did not find. I know what I found.

Mr. PHILLIPS: I don't know what reefs you did find, I know that there are none, and it was in consequence of your report that the vendor asked the company 30,000*l.* for the estate. Will you allow me Mr. Simons to ask you one question?—Prof. VAZIE SIMONS: Certainly.

Mr. PHILLIPS: You have been on this estate.—Prof. VAZIE SIMONS: Yes, I have been pretty well all over it.

Mr. PHILLIPS: That is no answer. I mean how far?—Prof. VAZIE SIMONS: I did not count my footsteps, I was not paid to do so.

Mr. PHILLIPS: The estate is nearly 2½ miles long, and you as a mining engineer should know how many square yards you passed over.

Prof. VAZIE SIMONS: There is one thing I know I never received a single penny for my work on Pandyland.

Mr. PHILLIPS: I thought you were always paid for reports you gave. (Laughter.) A SHAREHOLDER: I am very glad this subject has been brought forward. I am unfortunately a large holder in a company which has recently gone into liquidation; in that case a certain party, who I will not name, had reported on the property, although he had never seen it.

The CHAIRMAN: This is a matter which is simply between Prof. Vazie Simons and Mr. Phillips, and had better be discussed some other time.

## THE CHERAMBADI GOLD MINING COMPANY.

SIR,—A slight difference of opinion exists between Prof. Vazie Simons and Mr. Phillips, one of the directors of the company, a gentleman of great mining experience, who has just returned from inspecting the Pandyland Estate, upon which he resided for several weeks, cut many miles of pathway, and endeavoured to his utmost to find gold reefs upon the property, but failed to discover them. The former gentleman had reported there were some, and evidently would be found to be true fissure veins. Mr. Phillips asked Mr. Simons to inform the shareholders in what locality of the estate they were to be found. The information has not yet been given. Will he kindly oblige us?—*London, Feb. 21.*

RAMSAY COOKE, R.N.

## THE GOLD AND DIAMOND FIELDS OF SOUTH AFRICA.

SIR,—The heat lately has been almost unbearable; on the 20th and 21st the thermometer registered 114° in the shade. On the 22nd and 23rd it registered 121° in the shade. There is consequently a great deal of sickness in this place, and the doctors who earned from 6000*l.* to 7000*l.* per annum before they doubled their fees are almost coining money. There is a good opening here for a few good doctors and chemists. I regret to say that housebreaking and robberies of all descriptions are very much on the increase. On the night of the 20th inst. a party of robbers entered a house and stole one of Milner's iron safes (with its contents), weighing about 800 lbs! The liquor traffic here is an unmitigated curse to the natives, and to its evil influence may be traced almost every crime in Kimberley. Saturday nights and Sundays are rendered hideous by the unearthly yells of drunken natives, who perambulate the streets in the most disgusting manner. The Diamond News, referring to this matter, says: "Kimberley has long ceased to be a rough mining camp, and it is little less than an insult to the ladies of the community that they are exposed to the unpleasantness of meeting in all parts of the town natives in a garb, or rather the lack of it, that is simply indecent." I must say the local papers do all in their power to remedy this sad state of affairs, but the Government and the public generally exhibit an apathy which is utterly unaccountable. In consequence of the late election dodge there is now virtually no mining board, consequently there is a marked improvement in the general working of the Kimberley Mine, and I am glad to find that both journalists and mining investors are beginning to acknowledge that mining boards are utter failures. The officers (most of them) of the mining board are able men for the position they occupy, and it must be very galling to them to be compelled to listen to the vituperation so freely indulged in by the board.

Many of the companies are about to hold their half-yearly meetings, and in the majority of cases there is no chance of a dividend now or in time to come; but, as I have always remarked, there are a few companies that are fabulously rich, and many that are capable if properly managed, of paying fair dividends. The reason the Barnato Company did not pay a dividend for the last quarter was because they were covered with reef the whole time. This is the misfortune in having such a small block. Their ground is extremely rich, and if they had 12 claims instead of 4½ they could always pay 15 per cent. per quarter, regardless of fallen reef; but now their block is so small that a fall of reef in their vicinity easily covers it, and prevents them from getting out diamond soil. They will, however, pay a good dividend in April. As I anticipated in my last, the British has decided to pay 10 per cent. for the quarter. The French company are still troubled with fallen reef, but they have such a magnificent block of claims that I fail to see how anything can prevent them from paying their regular dividends. The Central Company are taking out enormous quantities of diamonds, and the prospects of this company are splendid. The Standard Company has a good block of claims, and ought to pay better dividends than they do at present. They have a very good captain dresser at the floors; but otherwise there is room for improvement in this concern. At Kamfers Dam they have washed about 300 loads of stuff, which proved to be of no material value, and consequently many of the shareholders are pulling very long faces. I do not wonder at this, neither can I understand intelligent men laying out 25,000*l.* in the erection of machinery and plant before satisfying themselves that the concern can be made to pay. I have been shown 800 carats of diamonds in the secretary's office, said to have been raised at Kamfers Dam, which ought to be a proof of its diamondiferous character. Notwithstanding the unfavourable result of the 300 loads just washed, I should like to see this mine in the hands of a good English Company, provided they could get the whole of the mine and plant for 30,000*l.* I do not suppose the shareholders would think of selling the mine at such a price, and yet, in the face of the late wash-up, it is as much as any person ought to give.

None of the river companies are doing any good; none of them started on a proper basis, and their winding up is simply a matter of time. At Bultfontein the ground which was worked at a splendid profit by private individuals is being worked at a serious loss by companies, and I do not know of a company in this mine that is likely to pay a dividend equal to what was promised in their prospectus, and there are very few companies that will pay anything; the fault is not so much in the mine as in the management. At De Beers Mine there are companies which if placed under the control of experienced managers would pay very well, which can never pay under the present system of management. Two companies will pay moderate dividends, and two others may pay a little, but it is somewhat doubtful—they will soon be troubled with reef. At Du Toits Pan



Mine, considering the character of the ground, I am surprised that more companies do not pay dividends; it is certainly not owing to any fault in the mine. From Jagersfontein there are reports of the finding of some beautiful diamonds, and in fairly large quantities, but the complaints of bad management which reach us are said to be the sole cause of failure in many companies.

The news from Ottos Kopje is very encouraging; they have struck the blue diamond soil, which looks very much like the Kimberley blue; but I do not think it likely to contain so many diamonds. They intend to sink some distance further before washing. I saw a small diamond picked out of the ground at St. Augustine's Mine a few days ago. I hear that it is likely an English company will open this concern. If they get the whole mine at a fair price I believe it will pay very well. The mines of Griqualand West are certainly very interesting in a scientific point of view. Even the diamonds themselves present a variety of forms; I have seen a beautiful pink diamond in its original state the form of a raisin, and I have seen large quantities of boart, which at first sight looked like nodules of iron pyrites, but which on a closer examination looked like an aggregation of small imperfectly formed crystals, which had been moulded in a cavity about the size and shape of a plum. In all the mines but Kimberley the diamond formation shows a distinct evidence of having been ejected from below at different periods. The first upheavals, although very similar in appearance, did not contain diamonds. The subsequent upheavals were diamondiferous; and as they burst through the earlier upheavals in some places they became mixed, and this is the reason why many companies' claims will not pay to work from near the surface. Managers of companies will do well to investigate this matter, and if they are competent to fill the positions they occupy they will endeavour to inaugurate a system which will enable them to reach the pure diamond soil, without the necessity of removing the enormous (in some cases) masses of worthless superincumbent matter.

News from the Transvaal is very conflicting. I have seen two letters, one from Marico and the other from Pretoria; the former stated that several tribes were at war, some being led by Dutch and some by Englishmen. The latter stated that the Dutch were commandeering for the purpose of fighting Mapoch's tribe. There appears to be trouble in store for the Transvaal. News from the gold fields states that the Government have revoked the gold laws at all the diggings, the same as at Pilgrim's Rest, thus equalising the thing by robbing the whole of the diggers instead of part. In consequence of the four fairly good gold mines which have been discovered on the Lydenburg gold fields, I have reason to believe that attempts will be made to palm off any amount of worthless ground in Europe. I heard one of the interested parties say that they intended to get a report on their property from a gentleman who had reported favourably on the Indian gold mines, and this, he said, is all they required to enable them to sell it in England at a big price. As I before remarked there are four fairly good mines in the Lydenburg district, but these are already in the hands of the diggers. There may be others, but they have to be discovered yet, consequently English speculators cannot exercise too much caution in buying gold mines in the Transvaal. If the four mines referred to above were offered for sale at a fair price I should like to see them in the hands of an English company. But judging by appearances these are only to be used as a fulcrum on which to move the worthless. I hear the Blaauwbank gold reefs are likely to be worked; and, as I remarked in my last letter, if they be opened properly and with strict economy they are likely to pay, but those reefs are not sufficiently rich to admit of any reckless extravagance. CORRESPONDENT.

Kimberley, Jan. 26.

#### THE NEW CALLAO.

SIR,—If "Vergens" will take the trouble to read and remember the contents of the circulars that have been sent him he will find that two unfortunate circumstances happened immediately after the company was successfully floated—the death of the manager, Mr. Robotham. Fortunately, the company was able to find and send another one out in a very short space of time—Mr. Sketchley, one of the most experienced and scientific mining engineers the world can produce. On that gentleman's arrival at Trinidad he was detained there in quarantine. When "Vergens" penned his letter Mr. Sketchley had only been on the property a few days. Have a little patience. By so doing you will be rewarded with good dividends in a few months time.—London, Feb. 22.

RAMSAY COOKE, R.N.

#### AKANKOO, AND NEW CALLAO GOLD MINES.

SIR,—I regret the directors of the Akankoo Company do not inform the shareholders more as to the present position and future prospects of work at the mines. I can understand the delay before the title was proved satisfactory, but since this has been settled we do not know whether anything is being done on the property or not. I understand the directors hold a large number of shares, Mr. C. Taylor and his family holding 2000, and Mr. Gething (solicitor to the vendor) 2000, all of which have been bona fide bought and calls paid to present date. I have, therefore, great confidence in the undertaking, if worked economically and energetically, and trust the directors may see fit at the forthcoming general meeting to give us information of such a practical nature as will confirm the prospectus and Mr. Cornish's report on the property.

The New Callao, I am pleased to see by Mr. Warner's letter in last week's *Mining Journal* that he hopes shortly to give us so much comfort. Prospectuses of mining companies unfortunately err in promising too much, and results too early, but now Mr. Shertchley (who from his position as Fellow of the Royal Geographical Society, and his practical gold mining explorations in Africa, must be a thoroughly competent man) is at work on the mine, we shall soon have results, and the directors are wise in promising to let the shareholders have information at the earliest possible moment. I would suggest that should results prove as satisfactory as expected the unissued shares be allotted *pro rata* to the present holders, so as to be able to get a Stock Exchange quotation, and give them the benefits that will accrue from the enhanced market value of the property.

AN ORIGINAL SHAREHOLDER.

#### SANTA CRUZ SULPHUR AND COPPER COMPANY.

SIR,—In the Supplement to last week's *Mining Journal* under this heading, John Lean, of King's-square, treats your readers to some very funny information respecting angles of lodes and slides. He deliberately tells us it matters not what the angle of a lode may be; in fact, such a thing as a lode having an angle is quite unintelligible to him very likely. I have not a shadow of doubt but it is. However, be that as it may, practical miners sometimes attach considerable importance to the angle of a lode. For instance, a lode running away very flat may near the surface be in a soft and congenial channel of ground, having a different angle of dip to lode, so that in a short distance the lode leaves the congenial ground and enters upon barren and unproductive strata. In elevated situations, such as Santa Cruz, the lode having but a small angle of dip from the horizon, may be better described as a measure, as it were entering the mountain at one side and coming out lower down at the other, whereas had the angle been greater the lode or measure would have extended in depth below the mountain, and consequently be more extensive and valuable.

Again, with regard to slides. If John Lean did not go into a mine, he doubtless saw the miners, and they informed him that slides are sometimes fertilisers, &c. Very good. There is little doubt but they often are, and as often are not, but quite the contrary. The slide which heaved and disturbed the lode at Santa Cruz had the effect of impoverishing it beyond the dislocation where it was cut into. Before working up to the slide the lode was some feet wide, while at the other side was only a few inches in width. It is a deplorable fact that the reports of Santa Cruz previous to the opening of the mine by the present company were greatly exaggerated in the opinion of the experts employed by the company to examine the mine after the agents sent out had failed to procure ore in so large a quantity as was expected. The directors, however, are in no way to blame, as they procured the services of some of the best practical agents in the kingdom, who put the mine to a full test of its capa-

bilities, and after eight months' operations it was finally established that the mine could not pay. A word of advice at the close to John Lean may be of service to him in the future—write no more on mines or mining till you have had some experience, at least enough to hide such gross and palpable ignorance as you now display.

Feb. 23.

A SHAREHOLDER IN SANTA CRUZ.

#### THE MINERAL WEALTH OF COLORADO—OURAY, AND ITS VICINITY.

SIR,—In the last copy of the *Mining Journal* I see nothing mentioned in regard to the mining interest of this section of the country. As I have recently made a prospecting ramble over this district, I take pleasure in submitting to you for publication some reliable information in regard to the present position and future prospects of this section of the country. It may be beneficial to capitalists who are seeking investments. I have at different times seen accounts published in local newspapers stating the richness and value of ore at different mines here that will not pay for transportation to the furnaces for treatment. I was of opinion that the camp must have been exaggerated. I arrived here in May last, and during my stay made a thorough examination of the different mines in this part, also the character of the ore; therefore, I feel justified in saying that this part of the country does not require any exaggeration whatever. The mines are situated high up in the mountains, where the snow remains until June, and the miners in general cannot begin work on their mines until that time; therefore, the mines here are worked to a great disadvantage. To work these mines the year round they should be worked by tunnels; that will require capital, as a great proportion of the mines in this part belong to men of limited means, not able to carry on their mining energetically. There are a great number of mines here that are capable of furnishing a large amount of ore when suitable reduction works have been erected. The mines are sufficiently opened to warrant their further development. If they were in the hands of capitalists they would soon be dividend-paying and permanent mines; if under practical management their regular monthly dividends would only depend upon the number of hands employed. These lodes are all true fissure veins, with two regular well-defined walls, and they cannot be exhausted in reasonable depth.

The formation in this district is mostly porphyry, and the character of ore generally is silver and lead. Some lodes contain grey or yellow copper, sulphure of silver, brittle silver, and chloride of silver, and are generally quite rich, assaying several thousand ounces of silver to the ton. Gold is found in many of the veins, and also a high percentage of copper and blende is found. The mines have increased in value as they obtain depth. There are two wagon roads now in course of making from this town to convey the ores from the mines to the town. For the present the ores are packed on jacks from the mines to this place at a cost of \$20 per ton, and from here taken in wagons to Pueblo to be treated, a distance of 300 miles, at a cost of \$60 per ton; total freight, \$80. After the freight is paid, and the cost of smelting and percentage deducted from assay, ore that will not assay \$175 per ton in gold and silver is left to remain on the dump at the mines as of no value at present.

To work the mines in this district the ore should be treated here, as there is an abundance of water and wood for all necessary purposes. The mountains here are high, and a portion of them are perpendicular. In these parts there are a great many chasms, where the large fissure veins are exposed. Here the mountains for nearly 20 miles square are interlaced with great fissure veins running in all directions, that are traced for miles, and the outcrop of ore along the surface is wonderful. In all my travels and observations never have I seen such a richness and display of ores upon the surface. This section of country is without doubt destined to be the future great mining camp of the world. It is yet only partially prospected. Capital is needed to unearth the golden treasure hid, and nowhere could surer investments be made. Ouray has waited long and patiently for necessary capital to develop her mineral wealth. There exist but three serious obstacles to success:—First, the want of capital; second, the lack of suitable reduction works to treat the immense quantities of ore; third, practical management. If this system should be adopted no better or more permanent mining country in the land could be found. There are a great number of young mines here that have paid their way from the very grass roots down, considering the disadvantage in working they had to encounter with. What has been a serious drawback to this part of the country, keeping back capitalists, is the Ute Indians and the long distance of Stuyling from the railroad. I am happy to say the Indians are gone for ever, removed into Utah by the United States troops, and the railroad is opened to Gunnison City, and by July 1 next it will be open to within four miles of this prosperous country. Readers are not aware of the gold resources of Ouray and its vicinity. I shall make a few remarks on some of the most prominent mines in my next.

Ouray, Col., Feb. 6.

J. JENKINS.

#### VALUE OF MINES, MINING COMPANIES, &c.

SIR,—In my letter of Jan. 23 on the above subject I thought I had said enough to prove that your correspondent signing himself "Mining and Civil Engineer" was moved either with animus or ignorance in his criticism on the Monte Catini prospectus, and I did not intend to write you again on the subject, but as I noticed in the *Journal* of the 11th inst. that gentleman complains of the form and manner of my attack, and says that I make bold assertions without in any way attempting to disprove his figures, I beg leave to ask for a little space to reply to this. It was not as an apologist for the promoters of Monte Catini that I attacked your correspondent, as he insinuates, but as a lover of justice. As stated, I know something of the mine, and had examined the prospectus, and seeing the *bona fides* of the undertaking as shown forth in the latter, I had applied for shares, and could not but consider the criticisms published in face of the evidence given to be most unfair. I said your correspondent "garbled the statements" because he spoke of the past results as ominous of early exhaustion, &c., whilst put fairly—as I showed, and your correspondent could not gainsay it—these results really offered the best guarantee for future success. I said he "wandered about in a fog of figures," because he gave us, at least, five different values for the mine ranging between 11,817*l.*, or 46,634*l.*, without specifying which was the right one. Now, with regard to these figures all your correspondent's values are calculated upon bases of his own making, and my argument is that in such bases matters most essential to a fair estimation of the value are either wilfully or ignorantly omitted. Your correspondent now says that "practical engineers of long standing do not need to be told of the preliminary elements to be taken into account before proceeding to actuarial calculations." In this we agree, and as he has not made any allowance for such elements it is fair to assume he purposely left them out, or is not of such standing in the profession as to be able to estimate them.

But leaving this I will meet your correspondent on his own ground. He begins his calculations by stating that 25 per cent. interest should be the least allowed by any foreign mine, and that the life of a mine may be considered at 20 years. Surely your correspondent ought to know that such figures are not generally used. An examination of the market values of the best mines, with their dividends, will show him that the public estimate the interest at about 8 per cent. I will, however, confine myself to the calculations. It will not be necessary to go into all the values, as some of them must be incorrect, and as your correspondent seems to lean to the one he gives last (30,618*l.* 6*s.*) I will examine that. The basis for the calculation is put as follows:—Although the prospectus states the profit to have averaged for five years 10,000*l.* per annum it may be assumed that the mine is only now making 5000*l.* per annum (the ground for such assumption is not given), and that by the expenditure of 23,000*l.* over two years it may be made to pay 10,000*l.* in the second year, and 20,000*l.* per annum for the third and following years presumably to the average life of a mine, no allowance being made for expansion beyond the last profit named. Taking these figures it can be seen that the purchase-money (30,618*l.* 6*s.*), with the outlay of capital (23,000*l.*) spread over two years, would at compound interest of 5 per cent. amount to about 67,275*l.* in four and a half years, and that the incomes or profits of 5000*l.* the first year, 10,000*l.* the second, and 20,000*l.* in the third and following years at the same rate of com-

pound interest would be about 69,258*l.* within a like period, so that your correspondent calculates the value of a dividend-paying mine at something less than four and a half years' income, counting nothing for reserves, plant, freehold, stock, or any other value whatever, which at Monte Catini, as shown, at a moderate valuation are worth double the total of the sum he sets down. Surely your correspondent is not serious in asking for refutation of such figures. If he is really engaged as a mining engineer, making valuations upon the bases he puts forth, the investors in the mines brought out under such must be having a good time of it, and I should feel grateful if he would give me a tip in that direction.

Your correspondent concludes with saying the expected income of a mine over a defined future should be stated clearly in every prospectus; but is he such a novice as not to know that with most mines the statements can only be imaginary? Or is he one of the clever bodies who can see a hundred fathoms or two into the lodes, and thinks every one else ought to be able to do the same? Perhaps he would have liked to have seen the Monte Catini prospectus saying something like the following:—"In 22 years the mine, with bad management, want of capital, and neglect of the most ordinary explorations, produced 35,788 tons of ore, which gave a profit of over 400,000*l.*, and created a magnificent plant, leaving good reserves and discovering a new mine of similar value near it, and it is confidently assumed that, working with adequate means under vigorous and scientific direction, more than double such results can be produced; or, say, 40,000*l.* per annum for a very long period." Or perhaps the following:—"The late owner, working without technical knowledge, in the patriarchal fashion of paying for all labour by the day, and working only one shift, made a profit of 10,000*l.* per annum; and the promoters, in view of the large field for operations existing on the property, count securely upon increasing the output of ore threefold, at a great reduction in the proportionate cost, the estimate for profit on this being at least 50,000*l.* per annum." I verily believe such statements as these would have been received with favour by your correspondent and by the general public for whom he professed to write, and Monte Catini would have gone to a high premium, instead of falling flat, as it did, with a plain statement of facts, which only proves what has often been noted before in the mining world—that a worthless adventure will be caught up eagerly if it is only trumpeted and gilded sufficiently, whilst a really good affair, whose actual qualities are described only with truthfulness and modesty, will be scorned or neglected. With respect to your correspondent, I can only repeat the parting hint of my first letter, and if he attends to it his next criticism will gain in good taste and fairness.—Feb. 20.

A CAREFUL EXAMINER.

#### THE RICHMOND, AND ITS PROSPECTS.

SIR,—Your correspondent, "D," in his letter on the Richmond Mining Company, which appeared in the *Journal* of Feb. 11, seems to have fallen into an error when comparing the revenue of November with the returns for the half-year ended August, 1881. He overlooks the fact that the revenue of the first six months of 1881-82 was charged with all the costs and expenses of rebuilding the furnaces, providing new machinery, and putting the works into a thorough state of repair. It was, after deducting these expenses, that the profits were between 50,000*l.* and 60,000*l.* During the following months these extraordinary expenses did not recur, and hence November could show a profit of 10,000*l.*, notwithstanding the average yield per ton had fallen from \$57-44 to \$47-92. Your correspondent makes no mention of the increased value of lead—an important item for a company like the Richmond, which has a stock of upwards of 12,000 tons. In December, 1880, the company sold 2000 tons at 4-65 c. per lb., whilst at present from 5 c. to 5½ c. per lb. are obtained. This rise makes a difference of 20,000*l.* on their average annual production of 10,000 tons.

The mine and the improvements upon it have cost over 370,000*l.*; but the capital remains, as at first, at 270,000*l.*, and no debentures have been issued. The reserve fund has been raised to 75,000*l.*, and 70,000*l.* have been carried forward from last year's account. The costs of raising, smelting, and refining amounted in 1879 to \$40-46 per ton of ore; in 1880 to \$34-88; and in 1881, taking November as an average month, to \$34-20. When the present cheapness of charcoal in the Eureka district and the enhanced value of silver and lead are taken into consideration, are the directors not fully justified in their assertion that they can "work at a profit ores of a much lower grade than they could formerly?"—Paris, Feb. 18.

W. C. K.

#### BOSTON AS AN IMPORTANT COAL PORT.

SIR,—The able report of your Derbyshire and Yorkshire Correspondent in last week's *Journal* gives me occasion to remark that Boston is capable of being made a very large coal export and wood import place, by means of a limited local trading company. I am prepared to carry conviction to a Syndicate composed of the notabilities that both household and steam coals can be put on board the steamers or ordinary vessels at Boston at less than in the Tyne or Humber. The following will show that the Great Northern Railway Company, with their exorbitant rates, can be set at naught, the eminent coalowner and parliamentary railway solicitor, Mr. Robert Baxter, having given evidence before the committee on railway rates and fares that at 4*d.* per ton of coal per mile a net profit of 50 per cent. is realised.

The Legislature, in granting concessions to railway companies, treated them on the same footing as canal proprietors, whose canals and canalised rivers are, as is well known, navigated by vessels that are owned by parties in no way connected therewith, simultaneously with canal similar to railway proprietors transporting coal, &c., on freight at fixed rates, with their own barges and steam tugs. The general manager, now a director, of the largest coal carrying railway company to the Metropolis, stated to the Royal Commission on Railways, "The Railway and Canal Traffic Act has been practically a dead letter," but on no account abrogated. The fact is that perfect ignorance prevails as to the existence of a law allowing others than railway companies untrammelled to run locomotives with wagons attached, and equally so as to its application. On high roads, canals, and railways unrestricted circulation of carriages, vessels, and locomotives and wagons has always existed, and still exists, for all and everyone, subject of course to regulations to be carried out with the strictest impartiality. There has not existed, and does not exist, any difficulty in carriages, &c., at swift or slow pace on public roads in town or country, in steamers at the highest speed admissible on canals, where infinitely more care is requisite than upon a railway, from which deviation from a fixed line of rails, as a rule, is impossible. The able chief agent of the Aire and Calder Navigation gave evidence before a parliamentary committee that "up to 1847 or 1848 independent carriers were carrying as freely on railways as on canals, and there was no difference experienced, the railways regulating the running of the trains, any one having the power to run his engine and carriages on a railway." A report to the French Government on the railways of the United Kingdom states:—"Railway companies were considered by the Legislature in the identical light as canal companies, simply as proprietors of a road for transit to be placed at the disposal of all and every one to make use of same with their own locomotives and wagons on payment of a turnpike toll. Parliament inserted in all railway Acts a clause obliging them to grant free circulation to the locomotives and wagons of every person at a fixed rate, at the same time fixing the maximum rate the railway companies could levy on transports effected by themselves, comprising turnpike toll and transport charges. The railway companies were compelled to place their permanent way at the disposal of the public, but it was not obligatory on them to convey all merchandise in their own trains. It must be here remarked that an obligation is imposed on railway companies as concerns the circulation of the engines and wagons of other persons, whilst a mere faculty or option exists in transporting with their own engines and trucks coals and merchandise, which distinction has been acknowledged and acted upon by the law courts—viz., the imperative character in the former and the perfectly facultative or optional character in the latter case. The report of the Royal Commission on Railways of 1867 states that the railway companies are not obliged to carry all descriptions of merchandise



in their own trains. No regulation can authorise the closing of any railway, or hinder the circulation of locomotives and wagons at reasonable intervals. A recent case of a railway company refusing to convey the coal of a large coal mining company, and the deplorable state to which the colliery was consequently reduced, is a notable instance. I refrain from giving names or alleging reasons; suffice it to say that such has taken place only the other day, and as the law stands no power can compel them to convey the output of any person they may deem obnoxious, so that it is a perfect state of vassalage. What is there remarkable in a train on a railway, whether it belong to a railway company, or a limited company of coalowners and others, the same regulation being observed by each, the coal company having a more suitable *matériel* of engines and wagons than the railway company can command. As the entirety of the coal will be conveyed in sacks, the extensive drops and bays of the railway companies will be dispensed with as perfectly useless, the great reduction in the selling price of coal giving a monopoly to the combined coalowners and associates in a limited company. It would be too prolix to enter in this letter upon a detailed description of the distribution of the coal in the Metropolitan, importing by the latest official returns 10,500,000 tons coal in 1881, which with a reduced price will be vastly increased. It is no longer endurable that coal traffic be subjected to make good the deficit arising from the enormous capital squandered in the construction of useless railways, &c., so forcibly depicted in the *precited* French Government report, as well as by the general manager, now a director of the Midland Railway Company, whose evidence before a Parliamentary Committee states:—"Railway companies are very guilty in their contests with each other in starting useless lines bringing no dividend." Having on a previous occasion quoted the *Times* money market article as to the conduct of the Great Northern in their battle of coal rates with the Midland, I need only refer to the recent meeting of the King's Cross Company to show the uneasy state of feeling of the shareholders of that company, who, at war with the London and North-Western, reduced the fares between London and Manchester, according to the said French Government report, from the equivalent of 75 frs. to 8 fr. 75 c. first class, and from 50 frs. to 7 fr. 50 c. second class. Take the antecedents of this railway, their almost incredible parliamentary charges, their battles with the Midland North-Western, and last, not least, their unfortunate and costly dock speculation, and tell me, ye Derbyshire coalowners, is it not full time to co-operate with Boston as the sole means of rescuing your industry from total annihilation? I have taken up a position, with the law on my side, and the death knell has sounded for the thralldom of coal mining by the exorbitant railway rates.

20, Little Tower-street, Feb. 21.

W. J. THOMPSON.

#### SEX IN MINERAL VEINS.

SIR.—In reading Fourier's Philosophy in a new book by Van Buren Denslow, called *Modern Thinkers*, and having read Erasmus Darwin's *Love of the Plants* (Dublin 1795: grandfather of the present Darwin), I find my idea of sex in mineral veins fortified. My study of the Upper Mississippi lead field was from 1844 to 1853, and of the Missouri lead fields from 1855 to 1880:—1. The lead fields are basins of limestone, these being from 100 yards to 5 miles wide, and vein system duplicated in each basin.—2. All the discoveries of ores in the Upper Mississippi and Missouri lead fields may be located geographically in the basin where they occur, and stratigraphically in the rock and family of veins to which they belong. The lead ores mined in these fields have yielded to date \$150,000,000 worth of lead, all of which has been taken from the small basins, or along the edges of the larger ones, and is from the edge of the vein system, and will not include over 1-20th of 1 per cent. of the ores contained in the basins, as shown in my unpublished geological surveys of the Upper and Lower Mississippi lead fields. It will be seen from this that the existence of lead and zinc is now known which will supply the people of the centre of the Continent with these metals when it shall have a population of 300 to the square mile, as England has to-day.

My first attention to the physical outline of the crystallisation of lead ore was in 1848 while superintending a lead furnace in Wisconsin. The teams were bringing in ores from 20 different lead discoveries, having north and south veins, east and west veins, and stratified veins from the rock and clay. The east and west veins had regular cubes, the north and south veins had the edges of the cubes truncated, and the horizontal veins had the solid angles of the cubes cut off or truncated. The ores from the clay were amorphous, and this form of crystallisation was duplicated in each lead basin. This went to establish the fact that the lead producing and crystalline action had been directly connected with the vein system in all parts of the lead basin, that the same force which had been exerted to fill the vein system in one basin of limestone had duplicated that system in the adjacent basins, and the physical outline of the ore was an index of its geographical and stratigraphical position in the basin. Afterwards I was led to the conclusion that the north and south veins were the positive or male veins, and the east and west the negative or female veins. The north and south veins were few in number, the east and west veins many, and the north and south veins always pointed towards the basins of the east and west veins. This law is noticed in the animal and vegetable kingdoms, in the sheep and goat families, and in the cherry and apple trees, the males being in the minority. In applying this law to iron ores we suppose the magnetic ores are the positive or male ores, other varieties the negative or female ores. In the silver fields the Comstock, being a north and south vein, would be a positive or male vein, and the east and west veins of New Mexico and Old Mexico the negative or female veins.

The great vein known as the San Pietro, in the town of Hidalgo del Parral, is an east and west vein; also the largest and richest mine worked at the old Spanish mining town of Inde, in the state of Durango, Mexico, and known as the Del Agua (water mine), is an east and west vein. I am not sufficiently acquainted with the courses of the veins in the mountain States to apply this law of sex to the vein system of the numerous silver and gold-bearing fields, yet I have identified it in the vein system of the upper and lower lead fields of the basin of the Mississippi, and feel assured that it can be applied to all the families of veins which, as a rule, are aggregated around a central knob or Boofa, which forms the water-shed of individual families of veins, and which families as aggregated form the great stellar silver belt from Montana south through New and Old Mexico, and that by close observation the explorer and miner may profit by its application.—*New York.*

#### IS GOLD AN ELEMENTARY SUBSTANCE?

SIR.—This question may appear absurd to many readers, and will doubtless cause them to smile at the ignorance of the question. Nevertheless I have propounded the inquiry as an introduction to something further on the subject. In 1850 I was engaged with several other gentlemen experimenting for the separation of California gold from the sands and the quartz which was then being worked in that State, and during the course of these experiments we came to the conclusion that gold was not a simple, elementary body, but was in reality a compound of other metals, which themselves were compounds. For the purpose of this article it is not necessary to state all the various steps of procedure which led us to this conclusion, and which determined us to experiment upon that conclusion. Experiment we did, and taking certain proportions of three base metals combining them with such other substances as would represent as near as possible nature's alchemy, luting the whole in a paste together in a French clay crucible and encasing that in a black-lead crucible, also closely covered and luted, to represent the confined state of minerals and gases in the earth. The whole was placed in a Chilton furnace and kept at its highest heat for several hours, when the contents of the crucible were poured out, resulting in a nugget of metal having all the characteristics of pure gold—viz., colour, malleability, ductility, hardness, and resistance to acids.

Was it gold? We melted native gold from the quartz, separated it from the sand and run both metals into ingots, placing them side by side, applying tests and proving in various ways the one made from the combination of base metals was as much gold as the other. Now the reader who pitied our ignorance in asking the question at the head of this article, or one who laughed at our folly, has become interested, and is asking the question, why did you not go to manu-

facturing it for the market? The reason is that it cost three times as much to make it as gold is worth, besides that was not the object. We had solved a chemical problem and could positively say gold is not a simple elementary substance. Not only is this true of gold, but I have no doubt the same thing can be demonstrated with reference to some of the other metals. Mercury, copper, iron, and lead, all had an existence before either gold, silver, or platinum; and some of these with, perhaps, other minerals combined to form them, while they in turn had been formed by other combinations. I will give one illustration to show that copper was formed before silver. In the Lake Superior copper region native copper is often found with native silver on one side of it—in contact. Now the copper must have been formed first or the two metals would have been combined, for the reason that it takes a higher heat to melt copper than silver, and that in a fluid state would have melted the silver and combined with it, while the fluid silver thrown upon the cold copper would cool in contact with it. If the deposit was from solution the same would also apply, the copper reducing the silver, not the silver the copper.

Springfield, Ohio.  
—Mining Review (Chicago).

DR. D. P. KAYNEK.

#### DEVON GREAT CONSOLS.

SIR.—I quite agree with your correspondent's remarks on "Market Echoes and Mining Matters" in reference to the above mines, and as a resident in the neighbourhood of Devon Consols, and knowing the property well, I believe that 60,000Z, the estimated value of the machinery, plant, &c., is altogether below the mark.

"Shareholder" seems to have overlooked the line of railway, nearly five miles in length, belonging to this company, from the mines to the river Tamar at Morwelham, and which will, I think, prove a very valuable asset before long.

At the present time there are two schemes before Parliament for a line of railway to Callington—one from Lydford and the other from Tavistock—either of which would form a junction with the Devon Consols railway, and greatly enhance its value. As to the mines, I should like to see a more energetic working of the south lodes, more especially at the western part of the sett, just at the junction of granite and killas, and parallel with the rich lodes of Gunnislake (Clitters) Mine—a mine which bids fair to become before long one of the best in the two counties.

St. Thomas, Feb. 21.

W. P.

#### SILVER VALLEY MINES.

SIR.—We regret that your correspondent, "Workman," did not apply to us for information in reference to this company, as we should have been only too happy to have afforded him the fullest details as to the liquidation. The claims against this company, as originally sent in, exceeded 4500Z; but we are pleased to say that we have succeeded in setting aside claims amounting to over 2800Z, and other claims remain for adjudication; consequently this will increase the amount to be distributed amongst the shareholders. The sum in the Bank of England to the credit of this company is upwards of 4000Z, and such sum has not been diminished by the payment of a single farthing to anyone.

Until all the claims have been finally disposed of no distribution can be made—we are using the utmost diligence to accomplish this object. If your correspondent, or any other person interested in the company, desires any further information it will be readily given them by

BEALL AND CO.,

Solicitors to the Official Liquidators.

Queen Victoria-street, Feb. 23.

#### MARKE VALLEY MINE.

SIR.—In common with the other shareholders I have received a report signed by Captain Hodge as the result of his inspection of this mine, and it is most gratifying to find from such a reliable source that we have a valuable tin mine in the Wheal Jenkyn part lately added to Marke Valley; also that in the old mine the levels are now being driven in a valuable lode for copper, and that he is "confident that the western ground will yet pay handsome profits when fairly opened up." I hope, therefore, that our directors will lose no time in erecting suitable machinery for raising and dressing the tin at Wheal Jenkyn, and also begin the new shaft to come down in the rich copper ground in the western end, as suggested by Capt. Hodge.—*Liskeard, Feb. 22.*

P. F. W.

#### LEAD MINING IN THE D'ERESBY MOUNTAIN DISTRICT.

SIR.—Noticing the remarks under this head in last week's *Mining Journal*, I beg to say that when a short time since I was in this district I took a turn through the mines, and was surprised that more attention is not paid to this industry. The improvement at D'Eresby Mountain fully justifies the opinions then expressed locally about this property, and coming just on the eve of a generally expected rise in the lead market will, I believe, enable it to give complete satisfaction to the shareholders. At Goddard's, one of the best things I have seen for so young a mine, they have opened on a course of lead ore some 40 fathoms in length, and the lode is improving as they go down. I can safely say that if fairly worked this mine is bound to do well. There are one or two opportunities on the Mountain of neglected properties which surely will not now be permitted to remain so, for I consider they offer fair remuneration for invested capital.—*Feb. 23.*

SPECULATOR.

#### ISLE OF MAN MINING COMPANY.

The cutting of the north lode at Townshend (Cornelly), one of the Isle of Man Mining Company's mines, at the 125 is a source of great congratulation, not only to the shareholders but all interested. The 95 fm. levels proving the richest and most productive in the mine it was naturally inferred that the 110 fm. levels would be found equally so, but unfortunately a complete and rapid change in the underlie had evidently impoverished the lode, which at this point was most disappointing, a bar of hard unproductive ground evidently cutting out the ore. Fortunately the deductions arrived at by the manager, Capt. Wm. Kitto, Mr. Warrington W. Smyth, Mr. John Beckwith, the Chairman of the company, and others, based upon the peculiar and geological changes in the strata at this point, the effects of an eruption of granite bursting through the schistose slate, as also the varying irregularities in the underlie of the lode, have been confirmed by the meeting with what promises to be a resumption of the splendid deposit of ore above.

So far it has been driven on east and west over 20 fms. in about six weeks, and the forebreasts, though the matrix is much harder for driving, are still very productive, leaving a considerable portion of the vein standing on both sides of the levels. For the first 12 or 14 fms. the lode, as in the levels above, was very open, and the ore massed on each side in huge cubes crystallised into one another, a most wonderful and beautiful sight, and a complete contrast to the characteristics of its near neighbour, the celebrated Old Foxdale Mine, belonging to the same company.

The productiveness of the lode at this point has so far been a little irregular, ranging from 3 tons to upwards of 6 tons per fathom for the part driven on. Of course it is somewhat early to speak with confidence of the ultimate results; in fact, in mining no one can be too careful, but as the length of ore ground at the 95 extends over 150 fms., there seems at the present moment a fair reason to anticipate that these, the 125 fm. levels, may prove equally satisfactory. Old Foxdale keeps pegging away with its rock-drills, and the bottom of the 185 fm. levels are now close on the great bunches of ore driven through both east and west in the 155 and 170 fm. levels; in fact, the 185 west is now entering the ore ground, the forebreast being already over 3 tons per fathom. During the last few weeks by drill cross-cutting the 140 and 155 fm. levels east into the north or hard side of the lode some very rich silver-lead has been laid open, averaging considerably over 100 ozs. per ton, and in the 127 east the forebreast further advanced in that direction several strings of ore have been met with on the north side, which on assay show 350 ozs. to the ton of metal. The engine-shaft is down for a 200 fm. level, and a cross-cut about to be commenced. So productive have the 155 and 170 fm. levels been, and so powerful are the

characteristics of the veins, that the directors have felt themselves justified in commencing to sink a new shaft 134 by 104 ft. to take the veins at a depth of 250 fms., and to be supplied with the most efficient modern machinery for pumping, winding, &c. The raisings from these mines during the last six months of 1881 have been 1800 tons of lead ore, and the reserves are unprecedentedly large. So little is known of the Isle of Man Mining Company's property that few beyond those daily interested in the management have any idea of the extent of its mineral rights and resources, the miles upon miles upon the run of the Foxdale (Old Beckwith's) and Cornelly lodes without counting the numerous parallel and contra ones that pervade the sett.

Looking to the discoveries of days gone by and the prolific nature of the veins now being worked, it is not unreasonable to infer that many similar deposits of ore exist that only require patience, perseverance, and capital to be brought to light, but the low price of lead is an unfortunate drawback, and had it not been that the directors, responding boldly to the suggestion of their manager, kept pace with the most modern improvements and discoveries in machinery and explosives, &c., instead of raising, as they are now doing, 3500 tons of lead ore annually, the mines on this magnificent property long ere this would, in all human probability, have been stopped, or merely struggling on, fighting day by day for a precarious existence.

#### REPORT FROM CORNWALL.

Feb. 23.—There is very little change to note in the general aspect of mining affairs in the West, and quiet progress with fluctuations of a minor character continues the chief feature of affairs in the West. Here and there some additional attention is attracted by individual mines, but there is nothing of importance as a rule to call for comment. Wheal Agar has indeed been the subject of conversation in connection with the importation of Yorkshire miners into the county, and its unlucky casualties, which have led to the circulation of a good many rumours, especially as the meeting is overdue. No real doubt, however, is entertained that the mine is an excellent one, and there are those who believe that it might be made to rival the golden results of its wealthy neighbour—East Pool. At present it seems to be suffering from want of definite information, which makes it the prey of the vaguest and wildest assertions.

We have been struck by the fact that there have been of late an unusual number of what may be regarded as minor mine accidents, not often affecting life, but frequently doing considerable bodily injury. The proportion of these, of which the public hear nothing, is undoubtedly large, and it seems impossible to resist the conclusion that in spite of the strictness of the special rules in operation in the district, most or these casualties come under the "preventable" head. We are almost indeed led up to another conclusion, and that is that since the passing of the Employers' Liability Act there has been in many cases increased carelessness on the part of the men, and since the introduction of the wise practice of insuring against the consequence of that statute a greater laxity of supervision in some at least of our mines, if not in many. That the miners themselves are more reckless than they were is at any rate pretty well established. A worse case of carelessness—illustrative in its character—we have not heard of for some time than that by which a poor fellow named Stephens lost his life in the Golden Dagger Mine, near Port Bridge, on Dartmoor. Here there would be no question that the management had fulfilled every duty that was incumbent upon them, and that the unfortunate man himself was solely to blame for his death. In spite of the prohibition of the rules, notwithstanding the warning of a fellow workman, Stephens would persist in using an iron tamping bar in charging a hole which he had bored, the result being an explosion which shattered his head, and speedily produced death. The tamping used was of soft decomposed granite, and the Coroner held that this was not a suitable material. It certainly was very unsuitable to use with an iron bar, but we do not know of any practical objection to its use if the hole had been tamped with a copper or wooden tamper. The broad fact, however, is this, that iron bars are not safe under any condition, and that their employment is rightly altogether prohibited. But to get on quicker Stephens was willing to run any risk.

The "new departure" at South Caradon is an event of much interest, and it may be of wide practical importance. We have never concealed our belief that the Cost-book System is that which is best adapted to the promotion of Cornish mining enterprise, and that Limited Liability procedure, to say the least, has not been able to show any specially desirable features. Now this may arise from two causes—either from inherent inapplicability or weak or rotten financing. It is a fact that the great bulk of the Limited Liability concerns which have been introduced into the mining districts of Cornwall and Devon have been failures; but it is also a fact that here and there, as at Mellanear, there has been success, and that there are a few other cases in which substantial success seems probable. Now at South Caradon the experiment will be tried under the best auspices. Here is a large mine which is actually paying its way, and the management of which is unimpeachable, and to open up new ground fresh capital is wanted; and it is intended to raise this by Limited Liability conversion instead of by Cost-book calls. We have no doubt that the whole of the required amount will be forthcoming. If so, we shall see the Limited Liability principle set at work in the best possible way. If the experiment is successful, there is no doubt that the advocates of Limited Liability will have enormously strengthened their hands, and that a rapid extension of the principle must follow. If it does not succeed, then it seems certain that for many a year the Cost-book System will hold its own. After all, however, we must bear in mind that the general issue is frequently less affected by the character of the opposing systems than by the way in which they are worked. Both may be and are abused. The one great difficulty of Limited Liability mining, as it seems to us, is the want of elasticity in the provision of capital in time of vicissitude. This may to some extent be met by having a much larger nominal capital than called; but even this has its disadvantages, and by no means light ones.

#### REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

Feb. 23.—The demand for pig-iron is not such as to keep prices up to the level at which they stood on Quarter-day. But this may be in part accounted for by the circumstance that consumers are not generally now in the market, having previously supplied their needs. Common native pigs are this week selling at 42s. 6d., which is 2s. 6d. per ton less than the rates ruling at the quarterly meetings. Park-mine pigs are 50s. to 57s. 6d., according to the mixture. Lancashire and Welsh hematites are quoted this week at 3l. 10s. per ton. The mills and forges keep well employed, but the demand for sheets is less active than of late. This is evident from the fact that some medium-quality makers of galvanising sorts are prepared to book orders at 10s. per ton drop on Quarter-day prices. Marked bar houses keep well on, and Messrs. Phillips, Williams, and Son have now given in their adhesion to the action of the other "list" houses in quoting 7l. 10s. as the minimum price for bars. Before this "Mitre" brand bars had been selling at 7l. Collieries on Cannock Chase find that the demand for household sorts does not call for the employment of the men more than about half time. With increased vigour they are, therefore, turning their attention to bringing to bank quantities suitable for iron making purposes. Native ironstone is scarce, and is fetching fair prices. Stone from other districts is cheap and abundant.

A somewhat strange proposal was made by one of the South Staffordshire Mines Drainage Commissioners at a meeting of the Commission in Wolverhampton yesterday. It was that into the Bill which has already passed its second reading, for the granting of powers to the Commission to levy a maximum rate of 9d. instead of 6d., there should be introduced a clause which would limit the maximum rate to the old 6d. "in the event of a prospect of liquidation by the Commission." It was said that unless this was done there would be opposition to the Bill from the Tipton district—the very district which the Bill was intended to benefit—as the extra money raised by virtue of it would have to be expended almost entirely in



pumping the Tipton mines. The impression seems to have got abroad that the Commission is about to throw up its work altogether, and the Tipton men are desirous of paying as little as possible with that prospect before them. The proposal was rejected, and the originator was assured that such an idea was altogether erroneous and groundless.

At the same meeting the general drainage rate was levied of 1d. per ton on coal, ironstone, and all other minerals. A vote of sympathy was passed with the family of the late Mr. John Addenbrooke, to whose death I alluded last week, and Mr. Joseph Williams (brother to the present Chairman) was elected to the vacancy on the Commission.

#### TRADE IN SOUTH WALES.

Feb. 23.—The coal sent by South Wales to London is now becoming very large in quantity. The Aberdare Iron Company alone sends on an average upwards of 80,000 tons per annum, and the Bwlfa about 24,000 tons. Large quantities are also sent by other colliery proprietors. The fact is that when the ironworks were busy they used to consume all their coal in the making of iron, but since that period the amount not used in the ironworks has been sold, and become a source of income. Capitalists have become aware by experience that if they combine the making of iron, steel rails, tin plates, &c., with the sale of coal, there will always be something to keep their works going. Coal has been sent away from Cardiff since last report to the extent of 112,742 tons; Newport, 26,380 tons; Swansea, 19,244 tons. Prices may be quoted at 10s. 9d. for best colliery double screened, while other qualities may be had at from 9s. 3d. to 10s.; small coal, 6s. 6d. The new engineering company at Cardiff, to be called the Mount Stuart, is merely the old and successful firm of Messrs. Gunn, with an enlarged capital, under a new name, where about 5000*l.* per annum has been divided for years. The capital of the new company is 120,000*l.* A large colonial order for 30,000 tons of steel rails is being executed at Ebbw Vale, which will keep the works in full swing for some time. The Milford Docks Company are about to raise an additional capital of 200,000*l.*, which will make 800,000*l.* in all. It is anticipated that the whole of the works will be completed by July, 1885. In connection with this undertaking it may be mentioned that Mr. Lorillard, of racing celebrity, will build his covered steamers to do the journey from New York to Milford in six days, and that a liberal subvention will be granted by Congress, according to the celerity of the voyages. If Congress passes a Bill by which he can sail his ships under the Stars and Stripes, although of British build, they will be constructed by Messrs. Elder on the Clyde, as that firm has some interest in the undertaking.

#### TRADE OF THE TYNE AND WEAR.

Feb. 22.—The steam coal trade, as we noticed last week, continues rather dull, and only the first-class pits can be fully kept going at present. This is a natural consequence of the extensive business done in these coals during the three months ending in January, owing to the mild winter and the favourable weather at sea for shipping. There is nothing very discouraging in the state of this branch of the trade. Orders for spring shipment continue to be sent in, and favourable contracts are also being made; and when the spring trade for the Baltic and other foreign places is fairly opened out a good trade for steam coal is anticipated. The house coal trade is also rather dull. The extremely mild winter, or rather absence of winter, has gone against this branch of the trade, and some of the best Wallsends have declined 1s. per ton lately, which takes off some of the advance got a few weeks ago. The coke trade continues very strong and good. Prices are well maintained, and are, indeed, still likely to be raised, as the iron trade continues to improve, and the demand for inland consumption is consequently good, and there is also a good demand for shipment. The demand for bunker coal for steamers and for manufacturing coal continues good, and there is also a good demand for steam small coal. This coal is coming into more general use for both large and small steamers. Best steam coal is about 9s. per ton, and best house coal about the same price. Coke: Best furnace is 12s. 6d. per ton delivered at Middlesbrough, and foundry coke 13s. to 14s.

A stronger tone has been manifested in the iron trade during the past week, and makers and holders of iron have more confidence. Shipments are good for the time of year. There are enquiries from America for crude iron and for steel rails, and it is expected that there will also be a demand for steel ingots from the United States shortly. The question of the restriction of the make is engaging attention, the arrangement made with the Scotch ironmasters terminating with the end of next month. The restriction already made has benefited the trade generally, but the Scotch masters have not reduced the make sufficiently, as is evident from the fact that the stocks in that country have been increased considerably, while the stocks held in Cleveland have been considerably reduced, and Messrs. Connell's stock is still being reduced pretty rapidly. The market is now much more cheerful, but prices have not yet risen to any great extent. No. 3 is now quoted 42s. 3d., and for delivery to the end of June 42s. 6d. is quoted. In the manufactured iron trade there is plenty of work in hand for some time to come, and prices are very firm. Ship-plates are 7*l.* 5s.; bars and angles, 6*l.* 12s. 6d.; heavy iron rails, 5*l.* 17s. 6d. At Middlesbrough, on Tuesday, the market was quiet, and prices were weaker. Iron is getting low in the Scotch market, and it becomes more clear every day that the make in Scotland is much too large for the trade. In Cleveland the make has been reduced, and stocks are getting daily lower. The business in manufactured iron is steady and progressive, the demand is gradually improving; and this, combined with the large extent of work in hand, leads to the conclusion that there will be an active season.

The steel trade is very active, and the success in this department is leading to energetic steps being taken to reorganise the Darlington Iron Company. The wages question in connection with the iron trades has been discussed by the employer members of the Board of Arbitration, and they have forwarded the following minute to the ironworkers' executors:—"That in conceding the advance of 7*l.* per cent., which expires on April 29 next, the employers anticipated the action of the recent sliding scale, and gave more than the realised selling price warranted. They, therefore, agree to refer the operators' claim for further advance to arbitration, as provided by the resolutions of the meeting of the Board of Arbitration and Conciliation held at Darlington on Feb. 6." A standing committee meeting will be held on Friday at Stockton to further consider the matter, and arrange for the reference to arbitration.

The most remarkable event of the week is a very painful one, the violent explosion at the Trimdon Grange Colliery, which has caused the loss of nearly 70 lives. The Trimdon Grange Colliery is situated about 10 miles south-east of Durham; it is, therefore, in the Hartlepool district, the produce of the colliery being shipped at that port. There are two shafts here which are sunk to the main coal seam, 60 fms. from the surface, and to the Harvey seam, 130 fms. from the surface. These shafts were sunk about 40 years ago, and coals have been worked since that time, both seams having been worked extensively, and previous to the unfortunate explosion on Thursday last no similar occurrence has taken place there. We are not aware that any explosion of gas has occurred previously. The Harvey or Beaumont seam, in which the explosion occurred, has been worked for a very long period on the Tyne; it produces a rich bituminous house coal, and it contains a considerable amount of gas, but it has never been considered as a specially fiery seam, but serious explosions have occurred in the seam at various places in the county of Durham. A very serious explosion occurred in this seam. Old Renton, situated about four miles south of Tyne Bridge, about the year 1846, when there was a loss of many lives, and other fatal explosions have occurred in the seam at other parts of the county of Durham. The lamentable explosion which occurred a few years ago at Pelton Fell Colliery took place, we believe, on this seam. When the explosion occurred at Tremdon about 100 men and boys were at work in the Harvey seam, and the explosion was of a very violent character, as the onsets and others employed at the bottom of the shaft were killed by the force of the current.

The explosion was confined to the north side of the shaft, and it is evident that it did not extend into all the districts of those workings, as some of the men were not touched by the fire, although they felt the shock, and these men, although they were much affected by the after-damp and foul air, succeeded in getting to the shaft, and many of the men were found prostrated from the effects of the foul air, and were rescued by the heroic bands of men who promptly explored the workings as far as possible. Fortunately there was comparatively little injury done to the workings, as the roof generally is very hard and sound, and the falls of roof were few in number and slight in comparison with the falls generally found to occur from the effects of such an explosion. The last of the bodies were recovered on Tuesday, when it was found that 72 had perished from this fatal explosion, and 30 men and boys were rescued. The seat of the explosion does not appear to have been ascertained yet, but this will probably be found when there is time to investigate the matter.

A most unfortunate circumstance in connection with the affair has been the loss of Mr. Shear and his assistants when attempting to explore the workings from the Kelloe pit workings. The Kelloe Colliery belongs to the owner of Trimdon Grange, and the Harvey seam is worked at both collieries, and the workings of the two collieries are connected at a certain point by one drift; two doors, one of them being locked, were put into this drift. It appears that the force of the explosion carried these two doors away, and then a current of air set towards the Kelloe shafts, and the foul air or after-damp was carried towards those shafts. Soon after the explosion occurred Mr. Shear with a few assistants went down the Kelloe pit and attempted to penetrate into the Trimdon workings by this drift, when they were met by the after-damp and overpowered. One of the men who accompanied Mr. Shear made his escape and gave an alarm, and Mr. Shear and the other two men who had fallen were soon rescued, but too late to save their lives. Mr. Shear is much lamented; he was a fine, promising young man. Much sympathy is also felt with Mr. Scott, the proprietor of the works; he has had possession of the works only for a short time, and he has since he acquired them introduced many improvements. He is well known and highly respected in Newcastle.

#### REPORT FROM DERBYSHIRE AND YORKSHIRE.

Feb. 23.—There has not been much change of late in the business doing at the mines in Derbyshire. In the lead districts matters go on much as usual, the output being maintained up to the average. But that is not saying so much, considering the number of mines that have been opened out. The production is comparatively trifling, the great proportion of the lead being raised from a few. At the coal mines the fine or rather mild weather has interfered with the consumption of house fuel, so that many pits are working only four days a week. The trade with London is not so brisk as it has been, and prices are not so firm. Still, some of the collieries are doing tolerably well, especially those working through their own agencies in the Metropolis. Steam coal is still in fair demand, especially as regards the pits anywhere near to a shipping port. A considerable tonnage continues to be consumed at the furnaces in the county, whilst the railway companies are taking rather more than they did. Engine fuel has been in better request, and a considerable tonnage continues to be forwarded into Lancashire for the cotton and other mills. At the ironworks a fair amount of business is being done. The greater part of the ironstone continues to be received from Northamptonshire, but the Rutland field will shortly be tapped, and is likely to slightly influence at least the imports from Northamptonshire. The ores peculiar to coal measures are not much looked after at the present time, although they were principally relied upon not so very many years ago. The production of pig keeps up well, and a good deal is being sent into Lancashire and Staffordshire, where it is preferred to the Cleveland and commands a higher price. The foundries have been working well, and orders are now being received for gas and water pipes, which have been rather quiet. Machinery and mining requisites are also in good demand, and at Dronfield large orders are understood to have been received for mining spades and shovels for the Cape. The steelworks at the same place are as busy as they can well be, there being a very brisk demand for rails.

In Sheffield work is brisk in all directions, and in almost every branch. Steel-faced armour-plates keep the mills engaged on them at Brown's and at Cammell's going to their full extent, and this will be the case evidently for months to come, seeing that there are heavy contracts for our own as well as other Governments, and the demand it is evident will go on increasing, for no one maritime will be without them. Ordinary ship-plates, as well as those for boilers, are in steady request, and the mills turning out telegraphic and other wire, hoops, and merchant iron generally have as much as they can do. There is a heavy make of Bessemer, the requirements of special billets being large. Rails, too, are in as good demand as ever, and the mills are kept going to the full power on them, excepting perhaps at the Phoenix Works, where the mill broke down a short time since, and has not yet got into quite full working condition again. America has been sending some good orders to us for both cutlery and plain steel, as well as for rails, and notwithstanding so much has been said of late as to the make of Bessemer rails Vanderbilt and other heads of the railway system in that country evidently recognise the value of those made in England despite the difference in the price owing to the high duty that is levied in favour of the home producers. At the cutlery works the men are well employed on not only the best descriptions of table, pen, and pocket knives but on secondary qualities as well. File makers are also doing well, and makers of sheep shears have become quite busy in working for our own colonies, whilst orders are also being received from the South American states for them. In files and saws business is still good, the home markets looking well.

In railway material there has been increased activity of late, more especially in wheels, axles, and springs, and large orders have been received for railway wagons. The Midland Company, it may be said, are now negotiating for the purchase of the wagons belonging to coal firms and companies, by which there will be greater regularity in the transit to and from than has hitherto been the case. The delays in the return of empty coal wagons to the pits, which frequently causes the men to play for a day or a week, will be obviated, or at least greatly lessened.

The coal trade of South Yorkshire is quieter than it has been, and

colliery owners complain of the low prices which prevail, and which they are powerless to increase. House coal of course gets less inquired for, but a steady business has been and is doing in steam qualities, the weather being favourable for shippers, so that a good deal is being sent to Hull and Grimsby for the time of year. The facilities afforded at Goolse for the shipment of coal are also being appreciated, for a considerable tonnage continues to be sent there coast signed to London, Plymouth, and other of our home ports.

#### REPORT FROM NORTH WALES, SALOP, AND CARDIGAN.

Feb. 23.—The mild winter affects the small collieries whose trade consists chiefly of house coals, and many of them are not working vigorously. The larger collieries send their coals to Birkenhead for steam shipping purposes, but prices are said to be barely remunerative. The limestone quarries, whose produce is used for fluxing and chemical purposes, are fairly busy, and the local demand for burnt lime is good enough to justify an advance in price which has recently been made. Some of the building stone quarries of Raabon and Cefn are scarcely so busy as they were, but the brick, tile, and sanitary pipe trades continue good.

Lead mining keeps much the same. The ghost of Mr. Bushel is so often conjured up for prospectuses of lead mining in Cardigan that one seems to forget there was ever a Mrs. Bushel, or more than one. If the mining people of Cardigan would like to read the veracious history of my interview one stormy night on the wilds of Cardigan with the ghost of the Mrs. Bushel I would not mind putting that history on record for them.

Mr. Robertson, M.P., for Shrewsbury, is about to ask in Parliament for a removal from slate quarries of the restrictions as to the storage of explosives in them which apply to miners. A sad accident, by which four men were killed through the bursting of a boiler, has taken place in the Maenoffryn Slate Quarry, Festiniog.

#### MINING IN THE ARGENTINE REPUBLIC.

The attention of investors having been latterly directed specially to the prospects of mining in the Argentine Republic, some remarks by Mr. Egerton, the secretary to the British Legation there, in his latest report are specially acceptable just now. In an account of a journey last year to San Luis, Mendoza, and San Juan, Mr. Egerton says that the best mining districts in San Luis are to the north-west of the range of mountains in that province. A small English enterprise had already started mining operations, and a petition had been sent in by another English firm for the concession for a term of eight years of the entire mining rights of a large district—a concession which Mr. Egerton was led to believe would not be granted. In San Luis and elsewhere Mr. Egerton permitted himself to express to the authorities a hope that they would avoid previous mistakes in granting hasty concessions, or in giving countenance to mere speculators and men of straw, through whose bubble schemes for plundering the ignorant these internal provinces earn a bad name in Europe, and thus legitimate enterprise for their development fails in obtaining support. Mr. Egerton will not be surprised, however, if San Luis should rise into some little importance when brought within easy communication with the civilised world, as will be the case this year. Of the mineral resources of the Sierra he says there can be no doubt. The metal chiefly worked for hitherto has been gold, but he believes that the auriferous copper will prove most lucrative to mine. Lead and antimony are found in some quantity, and some money has been lost in gold washings in the river. In Mendoza the mountains south of San Rafael are said to contain very rich copper ores, and in the neighbourhood of Mendoza itself there is much argentiferous lead and some copper. Mr. Egerton was also told that there was plenty of petroleum, but he appears to have ascertained that the so-called petroleum is bituminous pitch in the shale formation. A concession was given in 1877 for coal mining rights over a radius of two leagues from Josefina Mine, near the town of Mendoza, with the privilege of supplying that town with gas for 30 years, but nothing seems to have been done in regard to working the coal. The impression which Mr. Egerton carried away from the provinces mentioned was that there is in them much exaggeration of real ignorance respecting the nature and practical value of the minerals of the Cordillera, and yet for hundreds of years these mountains have been overrun with searchers for the precious metals, and almost everywhere there have been surface workings. There are many more so-called mines in San Juan than in Mendoza, but Mr. Egerton does not think that either province is in any way equal to Rioja for richness of silver and copper ores. The principal ores in San Juan and the north of Mendoza seem to be galena, and though they may be rich in silver they will scarcely pay the cost of carriage to the sea except with cheap railway communication. Mr. Egerton, however, saw in the steamer by which he left Rosario for Buenos Ayres a few pigs of San Juan lead from the Argentine Mine in the Huerto range: 15 or 20 years ago there was much more mining in San Juan than at present. There are coal measures in San Juan, but Mr. Egerton saw but one piece of coal, and that was of very indifferent quality.

SLATE MINES.—A statute of 1872 provides that gunpowder or other explosive or inflammable substance shall only be used underground in a metalliferous mine under certain stringent regulations. Mr. Robertson, M.P., proposed, in a Bill that he has introduced into Parliament, to authorise a Secretary of State to exempt any slate mine from the necessity of observing these regulations. The rules in question are that the explosives shall not be stored in the mine or taken into it in cases containing more than 4 lbs.; that a workman shall not have in use in any one place any more than one such case; that certain conditions be observed in charging holes for blasting; and that a charge that has missed fire shall not be unrammed.

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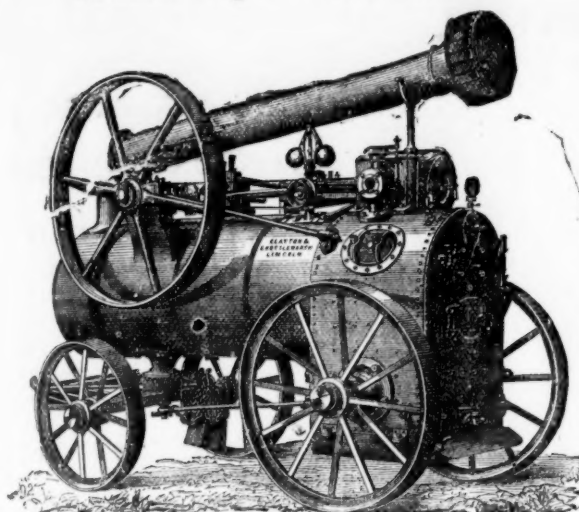
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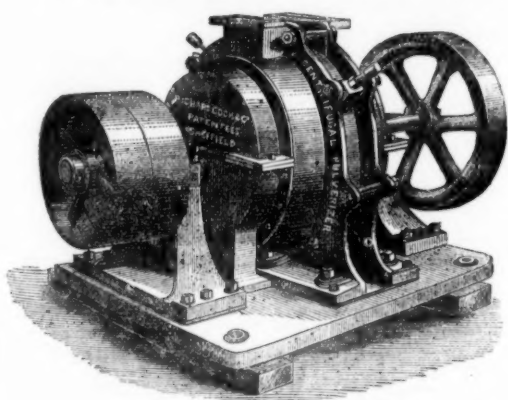
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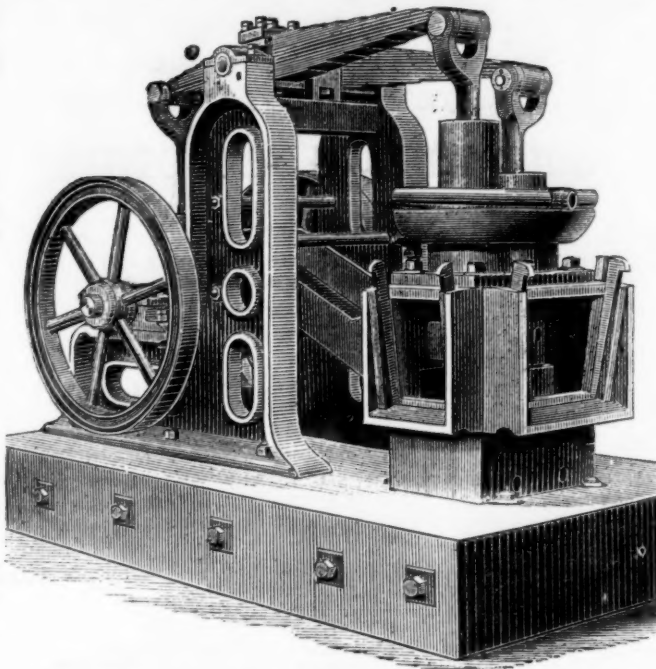
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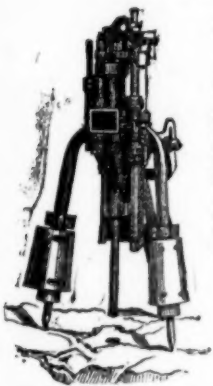
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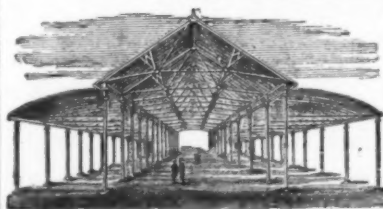
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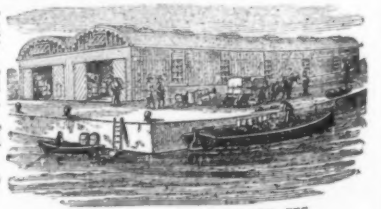
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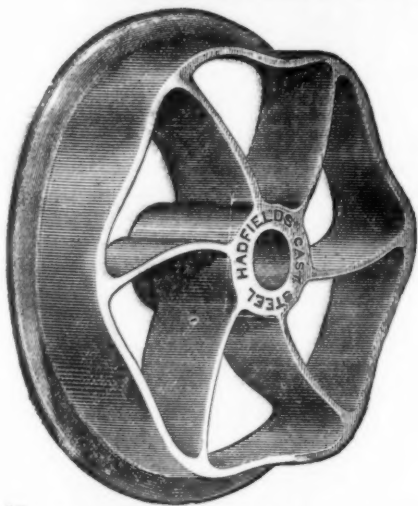
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X

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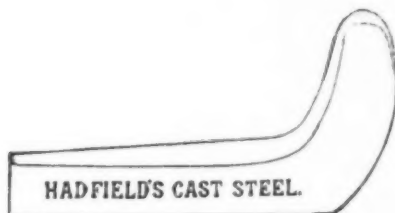
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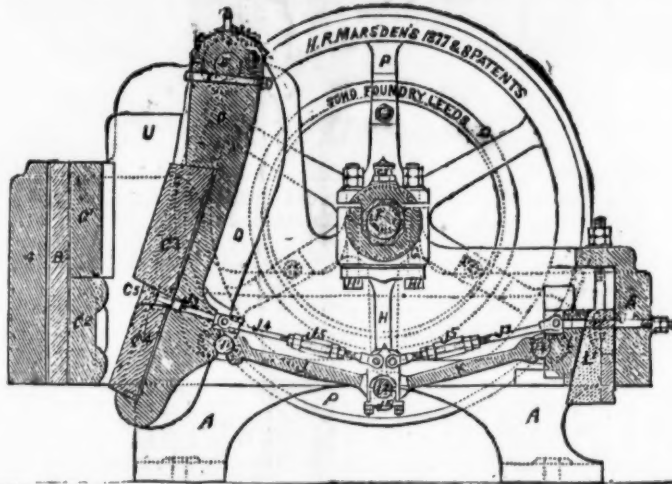
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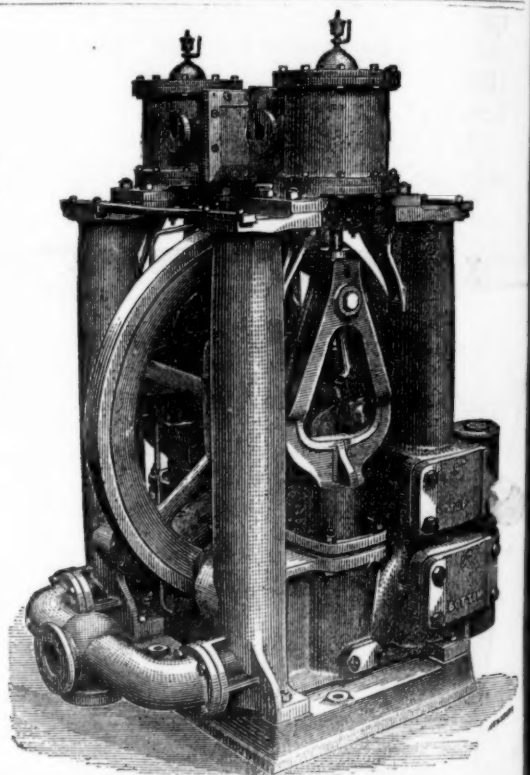
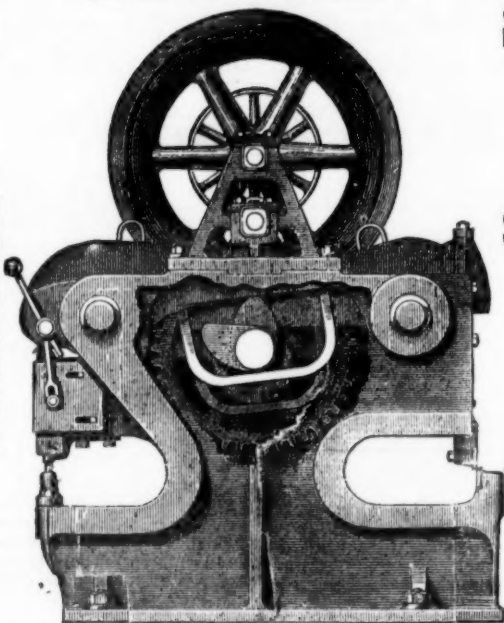
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